

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (currently amended) An image processor apparatus comprising:

means for acquiring designation data;

means for coupling image data corresponding to the designation data to form a
group corresponding to an object;

means for detecting a feature of the image data corresponding to the designation
data; and

means for uncoupling the image data within the group, coupled by the coupling
means corresponding to the designation data, according to each feature of image data
corresponding to the designation data.
2. (previously presented) The apparatus according to claim 1, further
comprising:

means for dividing the image data into small areas;

wherein the coupling means couples the small areas of the image data to each
other to group them according to the designation data;

wherein the feature detecting means detects a feature of each of the small areas;

and

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

wherein the uncoupling means uncouples the small areas having been coupled by the coupling means from each other according to the features of the small areas in the same group.

3. (previously presented) The apparatus according to claim 2, further comprising:

means for storing, for each of the small areas, information on positions of designation data corresponding to the small areas in the image data, designation-time information and identifier information indicative of whether each of the small areas belongs to any object image;

wherein the coupling means couples small areas corresponding to earlier designation data and small areas corresponding to current designation data to each other by storing the same identifier information as identifier information corresponding to the earlier designation data stored in a storage means so as to correspond to the small areas corresponding to the current designation data; and

wherein the uncoupling means uncouples, when one of a plurality of small areas to which the same identifier information is appended by the coupling means is different in feature from other small areas, the one and other small areas from each other by changing the identifier information of the one small area to different one of the other small areas.

4. (original) The apparatus according to claim 3, wherein

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

the feature detecting means detects, as the feature, the movement of an object in image data in interesting small areas in interesting image data of moving image data consisting of a plurality of image data.

5. (previously presented) The apparatus according to claim 4, further comprising:

means for computing a time interval between designation data earlier than the designation-time information on the designation data and current designation data; and

wherein the coupling means couples the small areas to each other when the time interval computed by the time interval computing means is less than a predetermined threshold while storing, when the time interval exceeds the predetermined threshold into the data storing means, different identifier information from identifier information corresponding to the earlier designation data information correspondingly to the current designation data not to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation to each other.

6. (previously presented) The apparatus according to claim 1, wherein the feature detecting means judges whether objects in interesting small area image data corresponding to the interesting image data are stationary or moving, based on a difference between the interesting small area image data and peripheral image data adjacent in the direction of time to the interesting small area image data; and

the coupling means is adapted to:

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

store, when the small area image data corresponding to the earlier designation data are stationary objects, the interesting small area image data are judged to be stationary and the time interval computed by the time interval computing means is less than the predetermined threshold, the same identifier information as the identifier information corresponding to the earlier designation data stored in the storing means into the storing means correspondingly to the small areas corresponding to the current designation data to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation data to each other;

store, when the small area image data corresponding to the earlier designation data are moving objects, the interesting small area image data are judged to be moving and the time interval computed by the time interval computing means is less than the predetermined threshold, the same identifier information as the identifier information corresponding to the earlier designation data stored in the storing means into the storing means correspondingly to the small areas corresponding to the current designation data to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation data to each other; and store, when the time interval exceeds the predetermined threshold or when the result of the stationary/moving judgment of the small area image data corresponding to the earlier designation data is different from that of the small area image data corresponding to the current designation data, identification information different from the identifier information corresponding to the earlier designation data into the data storing means correspondingly to the current designation data not to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation data to each other.

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

7-12 (canceled)

13. (currently amended) A communication apparatus for sending image data,
comprising:

an input means to which image data are supplied continuously;

means for receiving time-spatial position designation data for the image data;

means for coupling image data corresponding to the received designation data to
form a group corresponding to an object;

means for detecting a feature of each of the image data corresponding to the
designation data; and

means for uncoupling the image data within the group, coupled by the coupling
means and corresponding to the designation data, according to each of the features of the
designation data.

14. (previously presented) The apparatus according to claim 13, further
comprising:

means for dividing the image data into small areas;

wherein the coupling means couples the small areas of the image data to each
other to group them according to the designation data;

wherein the feature detecting means detects a feature of each of the small areas;

and

wherein the uncoupling means uncouples the small areas, having been coupled by
the coupling means, according to the features of the small areas in the same group.

U.S. Appln. No. 10/048,103
After-Final Response

PATENT
450101-03243

15. (previously presented) The apparatus according to claim 14, further comprising:

means for storing, for each of the small areas, information on positions of designation data corresponding to the small areas in the image data, designation-time information and identifier information indicative of whether each of the small areas belongs to any object image;

wherein the coupling means couples small areas corresponding to earlier designation data and small areas corresponding to current designation data to each other by storing the same identifier information as identifier information corresponding to the earlier designation data stored in a storage means so as to correspond to the small areas corresponding to the current designation data; and

wherein the uncoupling means uncouples, when one of a plurality of small areas to which the same identifier information is appended by the coupling means is different in feature from other small areas, the one and other small areas from each other by changing the identifier information of the one small area to different one of the other small areas.

16. (original) The apparatus according to claim 15, wherein
the feature detecting means detects, as the feature, the movement of an object in image data in interesting small areas in interesting image data of moving image data consisting of a plurality of image data.

U.S. Appln. No. 10/048,103
After-Final Response

PATENT
450101-03243

17. (previously presented) The apparatus according to claim 16, further comprising:

means for computing a time interval between designation data earlier than the designation-time information on the designation data and current designation data; and

wherein the coupling means couples the small areas to each other when the time interval computed by the time interval computing means is less than a predetermined threshold while storing, when the time interval exceeds the predetermined threshold into the data storing means, different identifier information from identifier information corresponding to the earlier designation data information correspondingly to the current designation data not to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation to each other.

18. (previously presented) The apparatus according to claim 17, wherein the feature detecting means judges whether objects in interesting small area image data corresponding to the interesting image data are stationary or moving, based on a difference between the interesting small area image data and peripheral image data adjacent in the direction of time to the interesting small area image data; and

the coupling means is adapted to:

store, when the small area image data corresponding to the earlier designation data are stationary objects, the interesting small area image data are judged to be stationary and the time interval computed by the time interval computing means is less than the predetermined threshold, the same identifier information as the identifier information corresponding to the earlier designation data stored in the storing means into the storing means correspondingly to the

U.S. Appln. No. 10/048,103
After-Final Response

PATENT
450101-03243

small areas corresponding to the current designation data to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation data to each other;

store, when the small area image data corresponding to the earlier designation data are moving objects, the interesting small area image data are judged to be moving and the time interval computed by the time interval computing means is less than the predetermined threshold, the same identifier information as the identifier information corresponding to the earlier designation data stored in the storing means into the storing means correspondingly to the small areas corresponding to the current designation data to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation data to each other; and

store, when the time interval exceeds the predetermined threshold or when the result of the stationary/moving judgment of the small area image data corresponding to the earlier designation data is different from that of the small area image data corresponding to the current designation data, identification information different from the identifier information corresponding to the earlier designation data into the data storing means correspondingly to the current designation data not to couple the small areas corresponding to the earlier designation data and those corresponding to the current designation data to each other.

19. (currently amended) An image processing method comprising the steps of:

acquiring designation data;

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

coupling image data corresponding to the designation data to form a group
corresponding to an object;
detecting a feature of the image data corresponding to the designation data; and
uncoupling the image data within the group, coupled by the coupling step and
corresponding to the designation data, according to each feature of image data corresponding to
the designation data.

20. (canceled)

21. (currently amended) A communication method for sending image data,
comprising the steps of:

inputting image data continuously;
receiving time-spatial position designation data for the image data;
coupling image data corresponding to the received designation data to form a
group corresponding to an object;
detecting a feature of each of the image data corresponding to the designation
data; and
uncoupling the image data within the group, coupled by the coupling step and
corresponding to the designation data, according to each of the features of the designation data.

22. (currently amended) A computer readable storage medium having
provided there a computer executable program which can be read by an information processing
means, the program comprising the steps of:

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

acquiring designation data;

coupling image data corresponding to the designation data to form a group

corresponding to an object;

detecting a feature of the image data corresponding to the designation data; and

uncoupling the image data within the group, coupled by the coupling step and

corresponding to the designation data, according to each feature of image data corresponding to the designation data.

23. (canceled)

24. (currently amended) A computer readable storage medium having stored therein a computer executable program which can be read by an information processing means, the program comprising the steps of:

inputting image data continuously;

receiving time-spatial position designation data for the image data;

coupling image data corresponding to the received designation data to form a

group corresponding to an object;

detecting a feature of each of the image data corresponding to the designation data; and

uncoupling the image data within the group, coupled by the coupling step and corresponding to the designation data, according to each of the features of the designation data.

25. (currently amended) An image processor apparatus comprising:

U.S. Appl. No. 10/048,103
After-Final Response

PATENT
450101-03243

an acquisition unit configured to acquire designation data;
a coupling unit configured to couple image data corresponding to the designation data to form a group corresponding to an object;
a detection unit configured to detect a feature of the image data corresponding to the designation data; and
an uncoupling unit configured to uncouple the image data within the group, coupled by the coupling unit corresponding to the designation data, according to each feature of image data corresponding to the designation data.

26. (currently amended) A communication apparatus for sending image data, comprising:

an input unit configured to receive image data;
a receiving unit configured to receive time-spatial position designation data for the image data;
a coupling unit configured to couple image data corresponding to the received designation data to form a group corresponding to an object;
a detecting unit configured to detect a feature of each of the image data corresponding to the designation data; and
an uncoupling unit configured to uncouple the image data within the group, coupled by the coupling unit and corresponding to the designation data, according to each of the features of the designation data.